Pressure Injury Current Awareness Service

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New Articles

Ahe, M (2020) "Group Issues Guidance on PPE Pressure Injuries" Hospital Case Management 28(7): 1-1
The bruised faces of healthcare workers have become a badge of courage, the price they are willing to pay for wearing respirators, masks, and other personal protective equipment (PPE) over long work shifts caring for COVID-19 patients The National Pressure Injury Advisory Panel has issued some general guidance to help healthcare workers — with the caveat that PPE effectiveness must not be compromised

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Charlton, S (2020) "Implementing a ward-based pressure ulcer prevention and management resource in an acute hospital trust" Wounds UK 16(2): 44-49
Nurses in the hospital setting face a number of challenges when delivering care to prevent pressure ulcers Time and capacity to attend training are often extremely limited In one Trust, a set of pressure ulcer cards was developed to provide information on the essentials of delivering effective pressure area care to patients The cards were designed to provide 'at-a-glance' information on effective care and management of each category of pressure ulcer and moisture-associated skin damage Each was linked to the SSKIN pathway The cards were underpinned by adult learning theories to ensure they would be considered a valuable and supportive resource for ward-based nurses

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Pressure ulcers are commonly associated with microbial infections on the wounds which require an effective wound dressing for treatment Thus far, the available silver dressing has shown tremendous result, however, it may cause argyria and complicate the internal organ function Hence, our study aims to develop and characterize phomopsidione-loaded chitosan-polyethylene glycol nanocomposite hydrogel (C/PEG/Ph) as an antimicrobial dressing Physically, the C/PEG/Ph hydrogel demonstrated a uniform light blue color, soft, flexible, and elastic, with no aggregation form The evaluation via Fourier Transform Infrared (FTIR) exposed the C/PEG/Ph hydrogel has a notable shift towards lower frequency at 1600 and 1554 cm\(^{-1}\) For drug release test, the phomopsidione attained plateau at 24 h, with a total release of 67.9 ± 64% from the C/PEG/Ph hydrogel There was a null burst release effect discovered throughout the experimental period The C/PEG/Ph hydrogel showed significant results against all 4 Gram-negative bacteria and 1 yeast, with 9999-100% reduction of microbial growth The findings revealed that the C/PEG/Ph hydrogel can potentially act as an antimicrobial dressing for pressure ulcers (Copyright © 2020 American Pharmacists Association® Published by Elsevier Inc All rights reserved)

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Medical device-related pressure injuries are the most common cause of pressure injuries within the intensive care unit, in particular those caused by nasogastric tubes and endotracheal tubes There are several known methods, which can alleviate the pressure of these devices on the skin surface to reduce the rate of these injuries To determine the feasibility of conducting a larger, adequately powered trial testing, several clinically effective interventions to reduce the incidence of medical device-related pressure injuries caused by these devices Patients were recruited into both study arms and received one of three different methods of skin protection for both arms Outcome measures included fidelity to the processes of care protocol, recruitment potential, and the number of medical device-related pressure injuries Recruitment (n = 87) was slower than expected with less than 10% of screened potential patients available for enrolment Fidelity to the process of care for each subgroup was variable with better adherence in the nasogastric tube arm compared to the endotracheal tube arm This feasibility study has revealed concerns about the intervention
Background: Pressure ulcers (PU) bring a considerable physical and mental burden on patients and their families, and have put families and government under tremendous pressure. Therefore, this protocol proposes to evaluate the quality of existing PU clinical practice guidelines (CPGs) and compare the similarities and differences between its recommendations in order to improve the treatment efficacy and reduce the PU treatment cost;

Methods: Electronic databases and specific databases of CPGs will be searched. Study selection and data collection will be performed independently by two reviewers. The Appraisal of Guidelines for Research & Evaluation II (AGREE II) Instrument and Reporting Items for Practice Guidelines in Healthcare (RIGHT) will be used to assess the methodological quality and reporting quality of included CPGs. Bubble plot will be used to describe the difference of the quality and mind mapping will be plotted to illustrate the comparison of recommendations of a guideline when needed. R software, MindMaster and Excel will be used.

Results: The results of this study will be submitted to a peer-reviewed journal for publication. Conclusion: This systematic review will provide comprehensive evidence of CPGs of PU; Prospero Registration Number: CRD42020149176


Background: Pressure ulcers (PU) bring a considerable physical and mental burden on patients and their families, and have put families and government under tremendous pressure to cover the cost for treatment. Therefore, this protocol proposes to evaluate the quality of existing PU clinical practice guidelines (CPGs) and compare the similarities and differences between its recommendations in order to improve the treatment efficacy and reduce the PU treatment cost;

Methods: Electronic databases and specific databases of CPGs will be searched. Study selection and data collection will be performed independently by two reviewers. The Appraisal of Guidelines for Research & Evaluation II (AGREE II) Instrument and Reporting Items for Practice Guidelines in Healthcare (RIGHT) will be used to assess the methodological quality and reporting quality of included CPGs. Bubble plot will be used to describe the difference of the quality and mind mapping will be plotted to illustrate the comparison of recommendations of a guideline when needed R software, MindMaster and Excel will be used; Results: The results of this study will be submitted to a peer-reviewed journal for publication; Conclusion: This systematic review will provide comprehensive evidence of CPGs of PU; Prospero Registration Number: CRD42020149176

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Background: A pressure injury (PI), also referred to as a 'pressure ulcer', or 'bedsore', is an area of localized tissue damage caused by unrelieved pressure, friction, or shearing on any part of the body. Immobility is a major risk factor and manual repositioning a common prevention strategy. This is an update of a review first published in 2014; Objectives: To assess the clinical and cost effectiveness of repositioning regimens (ie, repositioning schedules and patient positions) on the prevention of PI in adults regardless of risk in any setting; Search Methods: We searched the Cochrane Wounds Specialised Register, the Cochrane Central Register of Controlled Trials (CENTRAL), Ovid MEDLINE, Ovid Embase, and EBSCO CINAHL Plus on 12 February 2019. We also searched clinical trials registries for ongoing and unpublished studies, and scanned the reference lists of included studies as well as reviews, meta-analyses, and health technology reports to identify additional studies. There were no restrictions with respect to language, date of publication, or study setting; Selection Criteria: Randomised controlled trials (RCTs), including cluster-randomised trials (c-RCTs), published or unpublished, that assessed the effects of any repositioning schedule or different patient positions and measured PI incidence in adults in any setting; Data Collection and Analysis: Three review authors independently performed study selection, 'Risk of bias' assessment, and data extraction. We assessed the certainty of the evidence using GRADE; Main Results: We identified five additional trials and one economic substudy in this update, resulting in the inclusion of a total of eight trials involving 3941 participants from acute and long-term care settings and two economic substudies in the review. Six studies reported the proportion of participants developing PI of any stage. Two of the eight trials reported within-trial cost evaluations. Follow-up periods were short (24hours to 21 days) and all studies were at high risk of bias. Funding sources were reported in five trials. Primary outcomes: proportion of new PI of any stage Repositioning frequencies: three trials compared different repositioning frequencies. We pooled data from three trials (1074 participants) comparing 2-hourly with 4-hourly repositioning frequencies (fixed-effect; I² 45%; pooled risk ratio (RR) 106, 95% confidence interval (CI) 080 to 141). It is uncertain whether 2-hourly repositioning compared with 4-hourly repositioning used in conjunction with any support surface increases or decreases the incidence of PI. The certainty of the evidence is very low due to high risk of bias, downgraded twice for risk of bias, and once for imprecision. One of these trials had three arms (967 participants) comparing 2-hourly, 3-hourly, and 4-hourly repositioning regimens on high-density mattresses; data for one comparison was included in the pooled analysis. Another comparison was based
on 2-hourly versus 3-hourly repositioning. The RR for PI incidence was 4.06 (95% CI 0.87 to 1.98). The third study comparison was based on 3-hourly versus 4-hourly repositioning (RR 0.20, 95% CI 0.04 to 0.92). The certainty of the evidence is low due to risk of bias and imprecision. In one c-RCT, 262 participants in 32 ward clusters were randomised between 2-hourly and 3-hourly repositioning on standard mattresses and 4-hourly and 6-hourly repositioning on viscoelastic mattresses. The RR for PI with 2-hourly repositioning compared with 3-hourly repositioning on standard mattress is imprecise (RR 0.90, 95% CI 0.69 to 1.16; very low-certainty evidence). The CI for PI include both a large reduction and no difference for the comparison of 4-hourly and 6-hourly repositioning on viscoelastic foam (RR 0.73, 95% CI 0.53 to 1.02). The certainty of the evidence is very low, downgraded twice due to high risk of bias, and once for imprecision. Positioning regimens: four trials compared different tilt positions. We pooled data from two trials (252 participants) that compared a 30° tilt with a 90° tilt (random-effects; I² 69%). There was no clear difference in the incidence of stage 1 or 2 PI. The effect of tilt is uncertain because the certainty of evidence is very low (pooled RR 0.62, 95% CI 0.10 to 3.97), downgraded due to serious design limitations and very serious imprecision. One trial involving 120 participants compared 30° tilt and 45° tilt with 'usual care' and reported no occurrence of PI events (low certainty evidence). Another trial involving 116 ICU patients compared prone with the usual supine positioning for PI. Reporting was incomplete and this is low certainty evidence. Secondary outcomes: No studies reported health-related quality of life utility scores, procedural pain, or patient satisfaction. Cost analysis: Two included trials also performed economic analyses. A cost-minimisation analysis compared the costs of 3-hourly and 4-hourly repositioning with 2-hourly repositioning schedule amongst nursing home residents. The cost of repositioning was estimated at CAD 1105 and CAD 1674 less per resident per day for the 3-hourly or 4-hourly regimen, respectively, compared with the 2-hourly regimen. The estimates of economic benefit were driven mostly by the value of freed nursing time. The analysis assumed that 2-hourly, 3-hourly, or 4-hourly repositioning is associated with a similar incidence of PI, as no difference in incidence was observed. A second study compared the nursing time cost of 3-hourly repositioning using a 30° tilt with standard care (6-hourly repositioning with a 90° lateral rotation) amongst nursing home residents. The intervention was reported to be cost-saving compared with standard care (nursing time cost per patient: EUR 20660 versus EUR 25310, incremental difference EUR -4650, 95% CI EUR -125 to EUR -7460). Authors' Conclusions: Despite the addition of five trials, the results of this update are consistent with our earlier review, with the evidence judged to be of low or very low certainty. There remains a lack of robust evaluations of repositioning frequency and positioning for PI prevention and uncertainty about their effectiveness. Since all comparisons were underpowered, there is a high level of uncertainty in the evidence base. Given the limited data from economic evaluations, it remains unclear whether repositioning every three hours using the 30° tilt versus "usual care" (90° tilt) or repositioning 3-to-4-hourly versus 2-hourly is less costly relative to nursing time. (Copyright © 2020 The Cochrane Collaboration Published by John Wiley & Sons, Ltd)

Introduction: At Odense University Hospital (OUH) alternating-air mattresses (AAM) are used in the prevention of pressure ulcers (PU); however, static overlays might be more effective and have lower costs To investigate the properties and consequences of using static overlays for prevention of PU at OUH, a hospital-based health technology assessment (HTA) was conducted; Methods: Two types of static overlays were tested in an observational study and compared with AAM for patients with a medium-high risk of PU in geriatric and orthopaedic wards at OUH Incidence of PU was investigated 7 months before (n 720) and 6 months after implementation (n 837) Staff attitudes were examined in a questionnaire survey (n 55) and focus group interviews (n 13) Patients who had tried one of the overlays and the AAM were interviewed (n 123); Results: No statistical difference in PU incidence was found before and after the implementation of overlays (25% before, 27% after, P 0874, n 1557) and no patients lying on overlays developed PU (n 123) Staff had mixed attitudes, but the majority preferred having overlays as an option for their patients Interviewed patients preferred overlays due to less noise and improved mobility; Conclusion: Both types of overlay are effective in PU prevention However, overlays introduce challenges for staff and clear guidelines for the selection of support surfaces are needed Overall, it is recommended that static overlays are considered as an alternative to AAM for PU prevention

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Study Design: This is a retrospective, non-randomized cohort study, with data collected during the regular annual visits between 2001 and 2019; Objectives: The aim of this study was to evaluate the efficacy of coccygectomy for coccygeal pressure ulcers in individuals with paraplegia due to spinal cord injury or other neurological causes and to evaluate its role in the prophylaxis of ulcer recurrence; Settings: This study included inpatients and outpatients with a coccygeal pressure ulcer who were treated surgically at our Institution REHAB Basel and were followed with regular annual check-ups; Methods: Individuals with category 3 or 4 acute or chronic coccygeal pressure ulcer (classification according European Pressure Ulcer Advisory Panel (EPUAP)) received coccyectomies in addition to rotation flap surgery The operative care was provided exclusively by the head of the plastic surgery department at REHAB Basel Standardized follow-up treatment was carried out according to the "Basel Decubitus Concept" and thus allowed continuous and usually lifelong, regular follow-up care; Results: Forty-nine individuals underwent coccyectomy from 2001 to 2019 due to coccygeal category 3 or 4 pressure ulcers The observation period was between 15 and 183 years In 86% of the individuals, no relapse occurred during the first year Over the next 5 years 78% remained relapse free; Conclusions: In coccygeal pressure ulcer category 3 or 4, coccyectomies, in addition to sufficient rotation flap surgery, is a suitable method for recurrence prevention of pressure ulcer in this anatomic area

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Aims and Objectives: To determine the level of and factors in nurses' knowledge, attitudes and behaviours towards pressure injury (PI) prevention; Background: Although there has been a declining trend in global PI prevalence and hospital-acquired rates in recent years, this has not been the case in China Evidence in the literature indicates the importance of nurses' knowledge, attitudes and behaviours for promoting PI prevention; Design: Cross-sectional study; Methods: A total of 1,806 nurses from 10 tertiary general hospitals in Hunan Province, China, participated in this study Nurses' knowledge and attitudes were assessed using Pieper's Pressure Ulcer Knowledge Test and Attitude towards Pressure Ulcer Prevention Instrument, respectively, and behaviours were measured using a researcher self-designed questionnaire Multiple logistic regression analysis determined factors affecting the nurses' PI-prevention knowledge, attitudes and behaviours A STROBE checklist was used to report findings; Results: Among all nurses involved in this study, 417% had insufficient PI-prevention knowledge, 466% had negative PI-prevention attitudes, and 218% had poor PI-prevention behaviour Nurses with a bachelor's degree or above were more likely to have adequate PI-prevention knowledge Increased PI-prevention training frequency increased the nurses' positive attitude scores for PI prevention; longer years of service and a higher
number of PI-prevention trainings attended predicted better PI-prevention behaviours; Conclusion: Chinese nurses' PI-prevention knowledge and attitudes in this study were unsatisfactory, while their PI-prevention behaviour was acceptable Increasing PI-prevention training frequency can help improve Chinese nurses' PI-prevention attitudes and further behaviour Having a minimum of a bachelor degree may be beneficial to Chinese nurses' PI-prevention knowledge, but more evidence is needed: Relevance to Clinical Practice: Chinese nurses have insufficient knowledge about PI-repositioning, inadequate practices in PI nutrition assessment, and low confidence in their personal competence regarding PI-prevention The key solution for the above issues is to promote ongoing education and training based on strong clinical leadership

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The article presents genesis of a pressure ulcer which represents injuries to skin underlying tissue from lying down or sitting for a prolonged period time with patient paralysis and immobility It mentions the value of risk assessment tools and an understanding of how risk factors increase the chances of a patient developing pressure ulcers

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The article informs about pressure ulcers is to give the reader an understanding of the importance of pressure ulcer prevention and the SSKIN bundle Topics discussed include reliable method of reducing the number of pressure ulcers; hospital also received national awards for successfully reducing the number of hospital-acquired pressure ulcers; and identified pressure ulcer on admission, to prevent deterioration and speed healing

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Decubitus ulcer is a common complication in patients with spinal cord injury (SCI) that can be very difficult to treat We report a case of a 51-year-old man with a right-heel decubitus ulcer after SCI The ulcer initially covered an area of 48 cm × 45 cm and had a depth of 2 cm with denervation and hypoproteinemia After surgical debridement of the wound, the patient received radial extracorporeal shock wave therapy (rESWT) as an alternative to skin flap transplantation to promote wound healing The rESWT was administered at 10 Hz once or twice per week for 3 months, first from an R15 transmitter and later from a deep transmitter, with an increasing dosage of 20-35 bar given in 3000-6000 pulses After 3 months of rESWT, the ulcer was completely healed This case report demonstrates that rESWT can be an effective treatment option for patients with decubitus ulcers (AJTR Copyright © 2020)

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Background Many different operative options have been used to cover sacral defects Perforator flap enables wide defect reconstruction with long pedicle and a large arc of rotation while preserving gluteus maximus muscle, but the risk of vessel injury can jeopardize flap survival Perforator-based flap, the flap transposed without skeletonization of the perforator, requires much experience to be perfect in flap design to achieve tension-free closure Methods Fourteen modified parasacral perforator-based flap procedures were carried out on 14 patients The records of patients at Chungnam National University Hospital from February 2017 to January 2020 were retrospectively reviewed Results All 14 flaps survived completely One patient developed localized hematoma, and another presented with latent seroma No donor or recipient site dehiscence or recurrence occurred during follow-up Conclusion We present our experience of a parasacral perforator-based flap with modified design of bilobed flaps It could be performed easily and safely with less wound dehiscence and serve as a good practice model for young surgeons to cover small to moderately sized defects

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Lechner, A, J Kottner, et al (2020) "Outcomes for Pressure Ulcer Trials (OUTPUTs) project: review and classification of outcomes reported in pressure ulcer prevention research" The British journal of dermatology epub ahead of print

Background: In order to overcome inconsistencies in the reporting of outcomes in clinical trials, core outcome sets (COS) have been developed in many clinical areas and the awareness of this concept is growing steadily. The Outcomes for Pressure Ulcer Trials (OUTPUTs) project aims to improve the quality of evidence on pressure ulcer prevention trials by developing a COS: Objectives: As an initial step in the COS process we aimed to identify and classify outcomes as well as concepts that represent potential outcomes for future trials that have been reported in pressure ulcer prevention research; Methods: A review was conducted in twelve major databases covering the literature indexed until 2016. Outcomes and relevant concepts reported in primary studies and/or reviews on pressure ulcer prevention in adult patients were extracted as presented in the articles, and afterwards inductively grouped into outcome domains. The domains were then categorized according to the outcome domain taxonomy recently proposed by the Core Outcome Measures in Effectiveness Trials Group; Results: 332 studies were included and 68 outcome domains were identified, covering multiple aspects of pressure ulcer prevention. Pressure ulcer occurrence was reported in 71% of all included studies representing the most frequent outcome, followed by costs (22% of all studies), and acceptability of intervention and comfort (18% of all studies); Conclusion: A plethora of different outcomes is applied in pressure ulcer prevention research and substantial variations in definitions and reporting of similar outcomes were observed. A COS for pressure ulcer prevention trials is needed to overcome the non-comparability of outcomes. (This article is protected by copyright All rights reserved)


Study Design: Retrospective, case-control study; Objectives: In a traumatic spinal injury (TSI) cohort from Tanzania, we sought to: (1) describe potential risk factors for pressure ulcer development, (2) present an illustrative case, and (3) propose a low-cost outpatient protocol for prevention and treatment; Setting: Tertiary referral hospital; Methods: All patients admitted for TSI over a 33-month period were reviewed. Variables included demographics, time to hospital, injury characteristics, operative management, length of hospitalization, and mortality. Pressure ulcer development was the primary outcome. Regressions were used to report potential predictors, and international guidelines were referenced to construct a low-cost outpatient protocol; Results: Of 267 patients that met the inclusion criteria, 51 developed a pressure ulcer. Length of stay was greater for patients with pressure ulcers compared with those without (45 vs 30 days, p < 0.001). Potential predictors for developing pressure ulcers were: increased days from injury to hospital admission (p < 0.006), American Spinal Injury Association Impairment Scale grade A upon admission (p < 0.001), and thoracic spine injury (p < 0.037). The illustrative case described a young male presenting ~2 months after complete thoracic spinal cord injury with a grade IV sacral pressure ulcer that lead to septic shock and death. Considering the dramatic consequences of pressure ulcers in lower- and middle-income countries (LMICs), we proposed a low-cost protocol for prevention and treatment targeting support surfaces, repositioning, skin care, nutrition, follow-up, and dressing; Conclusion: Pressure ulcers after TSI in LMICs can lead to increased hospital stays and major adverse events. High-risk patients were those with delayed presentation, complete neurologic injuries, and thoracic injuries. We recommended aggressive prevention and treatment strategies suitable for resource-constrained settings.


Aim: To explore the experience and perception of pressure ulcers in a group of nurses caring for older patients; Design: A qualitative study based on interviews with (N = 6) nurses working with older patients; Method: A qualitative approach was applied using thematic analysis influenced by Braun and Clarke; Results: The findings comprised one main theme "Prevention of pressure ulcers is important" and four sub-themes...
"Nursing resources on the ward," "Basic nursing skills-lift the duvet," "Introduction of new nurses on the ward-bedside teaching" and "Missing articulation of pressure ulcers" Bedside teaching and experienced nurses may create a culture on the ward where basic nursing skills and observations are articulated (© 2020 The Authors Nursing Open published by John Wiley & Sons Ltd)


How to Organize Health Services for Preventing and Treating Pressure Ulcers? The aim of this Cochrane Review is to assess the effects of different provider-oriented interventions targeted at the organization of health services on the prevention and treatment of pressure ulcers The outcomes studied in the four studies, respectively, were (1) pressure ulcer incidence; (2) pressure ulcer incidence risk; (3) pressure ulcer incidence risk, number of wounds healed, reduction in wound surface area, and time to complete healing; and (iv) the number of pressure ulcers healed, and time to complete healing


Maydick-Youngberg, D (2020) "An Evidence-Based Interprofessional Collaborative Practice Approach to Decrease Tracheostomy-Related Pressure Injury" MEDSURG Nursing 29(3): 189-218

Communication failure between teams and individual clinicians has been recognized as the leading root cause of sentinel events and a primary contributing factor to adverse events and near misses in the clinical setting. The interprofessional approach used in this project to develop an evidence-based guideline and implement a standardized approach to tracheostomy management was effective in reducing device-related pressure injury


Postural changes while maintaining a correct body position are the most efficient method of preventing pressure ulcers. However, executing a protocol of postural changes over a long period of time is an arduous task for caregivers. To address this problem, we propose a fuzzy monitoring system for postural changes which recognizes in-bed postures by means of micro inertial sensors attached to patients' clothes. First, we integrate a data-driven model to classify in-bed postures from the micro inertial sensors which are located in the socks and t-shirt of the patient. Second, a knowledge-based fuzzy model computes the priority of postural changes for body zones based on expert-defined protocols. Results show encouraging performance in the classification of in-bed postures and high adaptability of the knowledge-based fuzzy approach (Copyright © 2020 Published by Elsevier Inc)


Objective: Pressure ulcers (PU) involve the destruction of skin and underlying tissue due to prolonged pressure and shear forces. These ulcers are painful and significantly reduce a person's quality of life. PUs are also expensive to manage and impact negatively on the achievement of cost-effective, efficient care delivery. Method: Prone positioning is a postural therapy that aims to enhance respiratory function through increasing oxygenation levels. In contemporary clinical practice, ventilation in the prone position is indicated
for patients with severe acute respiratory distress syndrome. However, despite its advantages in terms of respiratory function, several studies have examined complications of prone position ventilation and have identified PUs (facial PUs as well as PUs on other weight-bearing areas of the body) as a frequent complication in patients who are already in a precarious medical situation. International data suggest that up to 57% of patients nursed in the prone position develop a PU. The aim of this clinical review is to identify and review evidence-based recommendations developed to facilitate the selection and application of preventive interventions aimed at reducing PU development in patients ventilated in the prone position. Given the current COVID-19 crisis, this review is timely as intensive care unit (ICU) patients with COVID-19 require ventilation in the prone position at a level that is disproportionate to the general intensive care population. Up to 28% of patients admitted to the ICU with confirmed infection due to severe COVID-19 are cared for in the prone position. The scope of this review is limited to adult individuals only. Results: The skin assessment should be undertaken before proning and following positioning the patient back into the supine position. Although it is essential to keep the skin clean and moisturised, using pH-balanced cleansers, there is inconsistency in terms of the evidence to support the type of moisturiser. Use of positioning devices in addition to repositioning is recommended to offload pressure points on the face and body. Further, using dressings such as hydrocolloids, transparent film and silicone may be of benefit in decreasing facial skin breakdown. Conclusion: Given the importance of PU prevention in this cohort of patients, adopting a focused prevention strategy, including skin assessment and care, offloading and pressure redistribution, and dressings for prevention may contribute to a reduction in the incidence and prevalence of these largely preventable wounds.

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Background: Pressure ulcer is largely avoidable, but its prevalence rate increased more than 80% in a 13 years study. Nurses have a great position to advance best practices towards the prevention of pressure ulcers. Therefore they should be knowledgeable of the signs and symptoms of pressure ulcers, and preventive strategies to reduce its incidence, but there is limited evidence on nurses’ knowledge and its associated factors to prevent pressure ulcers in Ethiopia.

Methods: A hospital-based cross-sectional study was conducted from March 25 - April 23/ 2018. A total of 356 nurses were selected by stratification with a simple random sampling technique. Pretested structured questionnaire with closed and open-ended questions was used to collect data. Frequency distribution and percentage were computed to describe each variable. Bivariate and multivariable logistic regression with a 95% confidence interval was also carried out to see the effect of each independent variable on the dependent variable and declared statistically significant association with P < 0.05.

Result: The mean knowledge score of nurses was 25.2 out of 41 item questions. Fifty-two point 5% of nurses scored above the mean. Males [AOR 0.44, 95% CI (0.26-0.73)], working a maximum of eight hours [AOR 3.57, 95% CI (1.48-8.61)], not having training [AOR 231, 95% CI (114-461)], low salary [AOR 347, 95% CI (103-1167)] were significantly associated with inadequate knowledge.

Conclusion: Generally a nurse’s knowledge of pressure ulcers was inadequate. Being female, working less than or equal to eight hours, not having the training and low working salary are contributors to a low level of knowledge for pressure ulcers. (© The Author(s) 2020)

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Prone positioning is an adjuvant therapy used to treat COVID-19 pneumonia complicated by acute respiratory distress syndrome. However, prolonged pressure on facial skin at the level of the bony structures may be responsible for facial pressure ulcers. In the context of severe COVID-19 pneumonia, we hypothesized that hypoxemia, microvascular injury and thrombosis can increase the risk of pressure ulcers. We described two cases in order to emphasize the risk of facial pressure ulcers as a result of prone positioning, so as to discuss their physiopathology and highlight the importance of appropriate preventive measures. (Copyright © 2020 Elsevier Masson SAS All rights reserved)

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Individuals with peripheral arterial disease who have undergone below or above knee amputations have limited mobility and may sit for long periods of time in a wheelchair, increasing their risk for pressure injury. The aim of this descriptive cross-sectional research study was to retrospectively review the charts of those patients with peripheral arterial disease undergoing lower limb amputations from 2016 to 2017 at a major academic medical center to determine the frequency of pressure injury. Hospital data were used to identify patients discharged from 2016 to 2017 with primary International Classification of Diseases (10th Revision) codes for below knee amputations/above knee amputations and pressure injury (ulcer). From 2016 to 2017, 46 patients were admitted to the inpatient vascular surgery service for a below or above knee amputation. Seventeen of those patients had documented pressure injuries at hospital discharge for a frequency of 37%. There were 11 males and 6 females with age range of 44 to 82 years with a mean age of 66 years. There was a total of 19 pressure injuries (2 patients had 2 pressure injuries). Ten of those 19 pressure injuries were present on admission to the hospital and 9 pressure injuries were hospital-acquired. Pressure injuries Thirty of the 19 pressure injuries (68%) were on the sacrum. Three of the pressure injuries (16%) were on the heel. Two (11%) were ischial pressure injuries with one knee (5%) pressure injury. Risk assessment is an essential part of vascular nursing practice that aims to identify individuals at risk for pressure injury with appropriate interventions to prevent their occurrence. Vascular nurses should be encouraged to educate patients/family members on the increased risk of pressure injuries in those undergoing amputation during hospitalization and after discharge to prevent them from occurring.

Ratliff, C R (2020) "What is the frequency of pressure injury in vascular patients undergoing major amputations?" Journal of vascular nursing : official publication of the Society for Peripheral Vascular Nursing 38(2): 72-75

Shirai, T (2020) "The use of a mobile educational tool on pressure injury education for individuals living with spinal cord injury/disease: a qualitative research study" Disability and rehabilitation epub ahead of print: 1-10

Background: As many as 30-60% of individuals living with spinal cord injury/disease (SCI/D) experience at least one pressure injury (PI) in their lifetime. Best practice guidelines in SCI/D rehabilitation emphasize the importance of providing education regarding PI prevention and management for individuals living with SCI/D. Mobile educational applications can be used for PI education, however, there is limited research on the user-experiences of mobile educational applications about PIs for individuals living with SCI/D. Objectives: The purpose of this study was to explore the experiences of individuals living with SCI/D on the use of Pressure Ulcer Target (PUT), a mobile educational app for PI prevention and management. Methods/Overview: Nine participants living with SCI/D used PUT over two weeks. Individual semi-structured interviews were conducted to explore the participants' perceptions regarding the utility, aesthetics, and ease of use of PUT and suggested modifications. A conventional content analysis was used to identify themes and categories from the data. Results: User-experiences with PUT fell into four themes: (1) Strengths and weaknesses; (2) Target population; (3) Key concepts and messages; and (4) Recommendations for improvement. Conclusions: PUT serves as a review of previously acquired PI knowledge and should be introduced early in rehabilitation to motivate users to prevent PIs. Future studies exploring healthcare professionals' perspectives of PUT are warranted. Implications for rehabilitation: PUT aids individuals living with SCI/D in the community to review PI prevention and management strategies.
Nursing practice can be influenced by attitude prevention. Injury Among Intensive Care Nurses in Iran: A Descriptive, Correlational Study

Tayebi Myaneh, Z

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Injuries After Pediatric Tracheotomy?" The Laryngoscope epub ahead of print


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"Preventing Facial Pressure Injury for Health Care Providers Adhering to COVID-19 Personal Protective Equipment Requirements" Advances in skin & wound care epub ahead of print


Objective: To determine if a repurposed silicone-based dressing used underneath a N95 mask is a safe and beneficial option for facial skin injury prevention without compromising the mask's seal; Methods: Since February 21, 2020, staff in high risk areas such as the ED and ICU of King Hamad University Hospital have worn N95 masks when doing aerosol-generating procedures to protect against the novel coronavirus 2019. At that time, without education enablers or resources that could be directly translated into practice, the hospital's Pressure Injury Prevention Committee explored and created a stepwise process to protect the skin under these masks. This procedure was developed over time and tested to make sure that it did not interfere with the effectiveness of the N95 mask seal; Results: Skin protection was achieved by repurposing a readily available silicone border dressing cut into strips. This was tested on 10 volunteer staff members of various skin types and both sexes who became part of this evidence generation project. Oxygen saturation values taken before and after the 4-hour wear test confirmed that well-fitted facial protection did not compromise the mask seal, but rather improved it. An added advantage was increased comfort with less friction as self-reported by the staff. An educational enabler to prevent MDRPI from N95 mask wear was an important additional resource for the staff; Conclusions: This creative and novel stepwise process of developing a safe skin protection method by which staff could apply a repurposed silicone border dressing beneath an N95 mask was largely effective and aided by the creation of the enabler.

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"Pressure ulcers and the prone position" British journal of nursing (Mark Allen Publishing) 29(12): S6


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What Is the Best Approach to Prevent Advanced-Stage Pressure Injuries After Pediatric Tracheotomy?" The Laryngoscope epub ahead of print


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"Relationship Between Practice and Attitude Regarding Pressure Injury Among Intensive Care Nurses in Iran: A Descriptive, Correlational Study" Wound management & prevention 66(6): 27-34


Nursing practice can be influenced by attitude; Purpose: A study was conducted to evaluate the relationship between critical care nurses' practice, demographics, and attitude regarding pressure injury; Methods: The descriptive-correlational study was conducted from March 14 to June 21, 2019, among nurses working in 3 intensive care units affiliated with Qazvin University of Medical Sciences in Iran. Using convenience sampling methods, nurses with at least a bachelor's degree in nursing who are involved in pressure injury care were invited to participate. Demographic information (age, sex, work experience in intensive care unit, education level) and pressure injury education information were collected from participants. Each nurse was observed 3 times by a researcher during his or her full work shift and evaluated using the Quality of Nursing Care Related to Pressure Injury checklist, which consists of 85 items categorized in 6 groups: 1) pressure injury risk factor evaluation (23 items), 2) change of patient position (12 items), 3) patient nutrition (16 items), 4) skin examination (25 items), 5) skin care in high-risk patients (5 items) and 6) use of accessories for pressure injury prevention (4 items). Each item offers 3 response options (ie, applied, not applied, applied but not correct). Correct responses on 70%, 69% to 50%, and less than 50% of items indicate good, relatively good, and poor practice, respectively. The Attitude Towards Pressure Ulcer Questionnaire, used to assess nurses' attitudes regarding pressure injury prevention, is a paper-and-pencil questionnaire that is completed by the nurse participants and consists of 11 items, with answers based on a 5-response Likert scale that ranges from 1 (totally agree) to 5 (totally disagree). The total score ranges from 11 to 55. A higher score indicates a more positive attitude. Descriptive statistics including mean and standard deviation were used to describe demographic information, and analytical tests including Pearson...
correlation test were used to determine the correlation between numerical variables. An independent t test was used to evaluate the differences in mean scores of numerical variables between the 2 groups. Significance level was considered as P < 05; Results: The mean quality-of-nursing checklist score was 714 ± 135, inferring nurses provided good care. The highest and lowest mean scores were related to skin examination (228 ± 37) and skin care in high-risk patients (43 ± 08). The mean overall score of nurses' attitudes toward pressure injury was 2726 ± 51, indicating a positive attitude toward providing pressure injury care and prevention. There was a significant and positive relationship between mean years of practice and the mean attitude score (r = 0195; P = 041) as well as a significant relationship between quality of practice and attitude score (r = 0195; P = 041). Conclusion: Ninety percent (90%) of critical care nurses demonstrated a good practice and a relatively positive attitude toward pressure injury. Additionally, the findings suggest that nurses with more years of experience and a more positive attitude have better quality of practice. The results of the present study could be useful for improving pressure injury care in the hospital setting and for educating nurses and nursing students. Further research that includes nurses in other wards is warranted.

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The aim of this study was to evaluate the effects of photobiomodulation (PBM) by dual-wavelength low-power lasers on the healing and bacterial bioburden of pressure ulcer (PU) models. Twenty-five male Swiss mice were divided into five equal groups. Ischemia reperfusion cycles were employed to cause PU formation by the external application of magnetic plates. Immediately after wounding, a suspension of Pantoea agglomerans was applied at the base of all the wounds of the infected groups, using a calibrated pipette. PBM (simultaneous emission at 660 and 808 nm, 1428 J/cm², in continuous wave emission mode) was applied to the PUs for 14 sessions. The animals were euthanized 14 days after PU induction, and their tissues were analyzed for wound contraction and reepithelialization, epidermis thickness, bacterial survival, and IL-1β and IL-10 mRNA level evaluations. The PU areas appeared larger in the mice from the infected groups than in those in the laser group. 4 days after PU induction and presented incomplete reepithelialization 14 days after PU induction. However, the PBM accelerated the wound healing in the infected + laser group compared with the infected group. 11 and 14 days following the PU induction, the infected and irradiated PUs exhibited a thinner neo-epidermis than those in the infected group, and the bacterial survival decreased in the laser group; the relative expression IL-1β mRNA levels demonstrated an increasing tendency while the relative expression IL-10 mRNA levels demonstrated a decreasing tendency in the infected + laser and laser groups. These results suggest that PBM improves healing by killing or inhibiting bacteria in PUs as well as by accelerating the wound healing, resulting in tissue repair.

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Pazopanib, a targeted molecular drug, has been proposed as an effective treatment for soft tissue tumour and as a novel adjuvant therapy. There has been a paradoxical concern that wound healing could be inhibited by its anti-angiogenic properties, especially in reconstructive surgery. This paper reports on a 28-year-old woman who underwent flap surgery due to a skin and soft tissue injury after an effective treatment with pazopanib for refractory epithelioid sarcoma. The flap survived without any complication in off-periods of pazopanib for four weeks before and after the surgery, although it is only recommended that the washout periods of pazopanib commence at least seven days before scheduled surgery.

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Objective: Data about postoperative infections in male adults with spinal cord injury are scarce. We aimed to evaluate the association between prior exposure to pressure ulcers (PU) and the risk of postoperative infections in male adults with spinal cord injury (SCI). Methods: We conducted a prospective study of male adults receiving surgery of SCI from January 2007 to December 2019. Postoperative infection included septicemia, pneumonia, surgical incision infection and urinary tract infection. A logistic regression analysis was applied. Risk ratios (RRs) and their corresponding 95% confidence intervals (CIs) were calculated.
Results: There were 408 patients with SCI in this study, which comprised 204 patients with prior PU and 204 patients without. The rate of postoperative infections within 14 days in patients with PU was 23.5%, which was higher than that of patients without PU (6.9%). The amounts to a 4.18-folds elevated risk of any postoperative infections within 14 days in patients with PU (RR: 4.18, 95% CI: 2.30-7.60, p-value: <0.001). With respect to specific infections, positive associations in pneumonia (RR: 4.18, 95% CI: 2.30-7.60, p-value: <0.001), surgical incision infection (RR: 4.18, 95% CI: 2.30-7.60, p-value: <0.001), and urinary tract infection (RR: 4.18, 95% CI: 2.30-7.60, p-value: <0.001) were also statistically significant. These results did not materially alter adjustment for potential risk factors. Conclusions: The study suggests an elevated risk of postoperative infections after surgery for SCI in male patients with prior exposure to pressure ulcers.

Young, C (2020) "The psychological impact on family members of a patient experiencing pressure ulcers -- a reflective account" Wounds UK 16(2): 40-43

Verbal communication is considered the most effective way in which humans communicate feelings, experiences and views (Parahoo, 1997). This article captures the story of the family of a 95-year-old patient who had been admitted to an acute trust, where he developed a pressure ulcer on the heel, alongside some moisture-related damage on the buttocks. After being transferred to a local care home, he was re-admitted to the Emergency Department with sepsis and two unstageable pressure ulcers on his heel and sacrum, which he subsequently died from. The article outlines the impact and emotions family members felt during that time, which were recorded using open, unstructured, ad hoc interviews. The author allowed the family members to voice their feelings without prompting, collecting the information in a way that was comfortable to the family over several meetings. What follows is a reflective piece on the experiences and emotions felt about 'a pressure ulcer in the family' to help healthcare professionals gain a holistic view on the impact on family and caregivers.
Websites


“Risk Assessment and Prevention of Pressure Ulcers: a clinical practice guideline from the American College of Physicians” (2015)
http://annals.org/article.aspx?articleid=2173505


NICE Guideline: “Pressure ulcers: prevention and management of pressure ulcers” (April 2014)
http://www.nice.org.uk/guidance/CG179


The Trans Tasman Dietetic Wound Care Group, Evidence based practice guidelines for the nutritional management of adults with pressure injuries (2011)

Registered Nurses’ Association of Ontario - Risk assessment and prevention of pressure ulcers (2011 revised)

National Guideline Clearinghouse – predefined search
https://search.ahrq.gov/search?q=%22pressure+ulcer*%22+or+%22pressure+injur*%22


Cochrane Wounds Group
https://wounds.cochrane.org/news/reviews
The Cochrane Wounds Group was established in 1995 with the aim of using evidence from trials to conduct systematic reviews to establish the effectiveness of interventions for the prevention and treatment of wounds, and interventions for the prevention and treatment of wound complications.

National Pressure Injury Advisory Panel
http://www.npiap.com/
e-Journals

Advances in Skin & Wound Care (Tables of Contents only)
Eplasty (formerly Journal of Burns & Wounds) (full text)
EWMA Journal (full text)
International Wound Journal (Tables of Contents only)
Journal of the American College of Clinical Wound Specialists (full text)
Journal of Tissue Viability (full text)
Journal of Wound Care (full text)
World Council of Enterostomal Therapists Journal (full text 2010 onwards)
World Wide Wounds: the premier online resource for dressing materials and practical wound management information (full text)
The mission of World Wide Wounds is to be the premier online resource for peer-reviewed information on dressing materials providing practical guidance on all aspects of wound management to health professionals worldwide.
Wound Care Advisor (full text 2014 onwards)
Wound Management and Prevention (Table of Contents only)
Wound Practice & Research (full text)
Wound Repair & Regeneration (full text with 12-month delay)
Wounds International (full text 2012 onwards)
Wounds UK Journal (full text 2011 onwards)

e-Books

Acute and chronic wounds 5th ed, 2016
Fast facts for wound care nursing: practical wound management in a nutshell 2011
Nutrition and wound healing 2007
Queensland Health Libraries and Contact Numbers

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